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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,723	03/17/2004	Tsukasa Yamanaka	Q80484	1889
23373	7590	09/07/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			WALKE, AMANDA C	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/801,723

Applicant(s)

YAMANAKA ET AL.

Examiner

Amanda C. Walke

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on 3/17/2004 have been considered by the examiner.

### *Specification*

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Double Patenting*

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-5 and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,777,160. Although the conflicting claims are not identical, they are not patentably distinct from each other because

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the reference claims monomers used in combination in a positive resist composition and onium salts which encompass the claimed limitations of the instant claims, thus it would have been obvious to one of ordinary skill in the art to prepare the material of the reference resulting in a material meeting the instant claim limitations.

6. Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,787,282, over claims 1-11 of U.S. Patent No. 6,824,956, over claims 1-24 of U.S. Patent No. 6,479,211, or over claims 1-25 of U.S. Patent No. 6,787,283. Although the conflicting claims are not identical, they are not patentably distinct from each other because the references claim monomers used in combination in a positive resist composition and onium salts which encompass the claimed limitations of the instant claims, thus it would have been obvious to one of ordinary skill in the art to prepare the material of the references resulting in a material meeting the instant claim limitations.

7. Claims 1-5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,852,468 or over claims 1-8 of U.S. Patent No. 6,596,458. Although the conflicting claims are not identical, they are not patentably distinct from each other because the references claims monomers used in combination in a positive resist composition and onium salts which encompass the claimed limitations of the instant claims, thus it would have been obvious to one of ordinary skill in the art to prepare the material of the references resulting in a material meeting the instant claim limitations.

8. Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,927,009. Although the conflicting claims are not identical, they are not patentably distinct from each other because the

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reference claims monomers used in combination in a positive resist composition and onium salts which encompass the claimed limitations of the instant claims, thus it would have been obvious to one of ordinary skill in the art to prepare the material of the reference resulting in a material meeting the instant claim limitations.

9. Claim 7 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,787,282, over claims 1-11 of U.S. Patent No. 6,824,956, over claims 1-24 of U.S. Patent No. 6,479,211, or over claims 1-25 of U.S. Patent No. 6,787,283, over claims 1-15 of U.S. Patent No. 6,852,468 or over claims 1-8 of U.S. Patent No. 6,596,458, in view of Maeda et al (2002/0182535) or Inoue et al (6,406,830).

Maeda et al and Inoue et al disclose resist materials comprising polymers having similar monomeric units to those of the primary references listed above. These references specifically teach a sulfonium acid generator that meets the structural limitations of the instant claim 7.

Given that the references claim monomers used in combination in a positive resist composition that comprise sulfonium salts, it would have been obvious to employ the known sulfonium salts(s) of Maeda et al or Inoue et al and prepare the material of the reference resulting in a material meeting the instant claim limitations.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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10. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Okino et al (6,303,266), Uetani et al (EP 1143299 and 6,579,659), Iwasa et al (2002/0016431), Inoue et al (6,406,830), Nozaki et al (5,968,713), Aoai et al (6,042,991), or Hada et al (6,087,063).

The references clearly teach and/or claim resists comprising polymers which have monomers that meet the instant claim limitations and acid generators meeting the limitations of the instant claim 7.

11. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al 6,777,160, 6,479,211, and 6,596,458, Sato 6,824,956, 6,787,282, and 6,852,468, Aoai et al 6,787,283, and Kodama et al 6,927,009.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The references clearly teach and/or claim resists comprising polymers which have monomers (including dihydroxyadamantyl methacrylate) that meet the instant claim limitations and acid generators meeting the limitations of the instant claim 7.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al (6,593,056) or Takemura et al (6,511,785) in view of Sato et al 6,777,160, 6,479,211, and 6,596,458, Sato 6,824,956, 6,787,282, and 6,852,468, Aoai et al 6,787,283, Kodama et al 6,927,009, Okino et al (6,303,266), Uetani et al (EP 1143299 and 6,579,659), Iwasa et al (2002/0016431), Inoue et al (6,406,830), Nozaki et al (5,968,713), Aoai et al (6,042,991), or Hada et al (6,087,063).

The Takeda et al and Takemura et al references teach a method of forming a pattern comprising applying a layer of deep-UV photoresist to a substrate, exposing the layer, post – baking the film, developing it, then heating the layer to form a contact hole pattern.

Given the teachings of the references cited above for their UV resists for use in a pattern formation method, it would have been obvious to one of ordinary skill in the art to form a pattern by the method of Takeda et al or Takemura et al employing the material of any of the above cited references.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujimori et al (6,692,884), Nozaki et al (6,451,501), Nishi et al (6,703,183), Barclay et al (6,949,381), Ochiai et al (6,777,511), Nishimura et al (JP 2003-241384), Maeda et al (6,146,806, 6,710,188, and 6,469,197), Uetani et al (6,548,221 and 6,383,713), Allen et al (6,806,026), Yamahara et al (6,403,280), and Ebata et al (6,908,722) are cited as a representative

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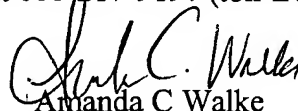
sampling of the large amount of US and foreign documents which could be cited as reading upon the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337.

The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amanda C Walke  
Examiner  
Art Unit 1752

ACW  
August 30, 2005